IN THE CLAIMS:

Please add claims 9-12. The status of all claims is as follows:

1. (Previously Presented) A single electron transistor device comprising:

a source;

a drain;

a gate;

a buried gate layer of silicon nanoparticles; and

wherein said silicon nanoparticles have a diameter of approximately 1 nm.

2. (Original) The single electron device according to claim 1, further comprising a buried gate contact to electrically stimulate said silicon nanoparticles separately from a contact to said gate.

3. (Cancelled)

4. (Original) The single electron device according to claim 1, wherein said silicon nanoparticles exhibit an energy spacing of approximately 1 eV.

5. (Previously Presented) A method for operating a single electron device, which has a source, a drain, a gate, and 1nm diameter silicon nanoparticles implanted as a buried gate layer, comprising the steps of:

creating at least one hole in the silicon nanoparticles to enable the silicon nanoparticles to conduct a single electron at room temperature across the source and the drain; and

applying a voltage across the drain and the source.

6. (Previously Presented) The method of operating the single electron device according to claim 5, wherein said step of creating a hole in said silicon nanoparticles is accomplished by irradiating said silicon nanoparticles.

7. (Previously Presented) The method of operating the single electron device according to claim 5, wherein said step of creating a hole uses light having a spectral width between 300nm and 600nm.

8. (Previously Presented) A transistor memory device comprising:

a source;

a drain; and

a gate, with 1nm diameter silicon nanoparticles contained in a control oxide and separate from a tunnel oxide disposed between said source and drain.

9. (New) A single electron device comprising:

a source;

a drain;

a gate;

a buried gate layer of silicon nanoparticles; and

a buried gate contact to electrically stimulate said silicon nanoparticles separately from a contact to said gate;

wherein said silicon nanoparticles have a diameter of approximately 1 nm.

10. (New) A single electron device comprising:

a source;

a drain;

a layer of silicon nanoparticles having a diameter of approximately 1 nm for

conducting a single electron at room temperature across the source and the drain;

a stimulating device to create vacancies in said layer of the silicon nanoparticles for single electron operation.

11. (New) The single electron device of claim 10 wherein said stimulating device comprises a light irradiator for irradiating the silicon nanoparticles in said layer of silicon nanoparticles.

12. (New) The single electron device of claim 11 wherein the light irradiator radiates light having a spectral width between 300 nm and 600 nm.